

REMARKS

The present response amends claims 1, 3, 4, 13 and 14, adds new claims 15-17, and requests reconsideration of the rejected claims. A Marked Version of the amendments is attached.

An abstract is requested in the Office Action and it is provided herein.

Claim 7 is rejected under 35 U.S.C. 112, second paragraph, for the recitations "thoroughly mixed" and "shortly before application" being allegedly indefinite as relative terminology. Relative terminology alone does not render a claim indefinite. Instead, it is necessary to determine whether one skilled in the art would understand the scope of the invention. MPEP 2173.05(b).

It is submitted that the terminology recited in claim 7 apprises the skilled artisan of the scope of the invention. This is shown by the fact that such terminology is used in claims for patents in the coatings field. For example, the phrase "shortly before application" is recited in claims in connection with mixing components in US Patent No. 6,448,326 to Mayer, et al., and US Patent No. 5,376,704 to Barsotti, as well as others, while the phrase "thoroughly mixed" is recited in claims in US Patent No. 5,985,463 to Lin, et al., and US Patent No. 5,358,749 to Fears, as well as others. Withdrawal of the rejection is, thus, requested.

Claims 1-2, 7-8, 10, and 13-14 are rejected under 35 U.S.C. 102(b) as allegedly being anticipated by Sano et al. Claims 3, 9, and 11-12 are rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over Sano et al. Claim 4 is rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over Sano et al. as applied to claim 1 above, and further in view of Plueddemann. Claims 5-6 are rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over Sano et al. as applied to claim 1 above, and further in view of van der Kolk et al. These rejections are overcome for the reasons detailed below.

Independent claims 1, 13 and 14 are amended to clarify that a silica sol is definitely included in the binder. As a result, the binder includes silica sol with or without other elements. New claims 15-17 are added to cover the inclusion of an alkali metal silicate in the binder, as discussed further below.

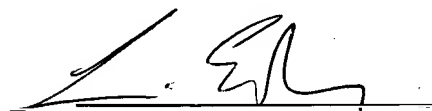
Claim 3 is amended to delete the recitation that the binder is a silica sol, since such recitation is unnecessary given that independent claim 1, from which claim 3 depends, recites that the binder comprises a silica sol. Claim 3 is also amended to insert the term "is" for grammatical purposes. Neither of these amendments change the scope of or narrow claim 3.

Claim 4 is amended to delete the recitation of an aqueous solution "of an alkali metal or ammonium silicate". This deletion serves to broaden the claim and make it consistent with claim 1, as amended.

With regard to the rejections based on the art, the primary reference, Sano, does not disclose coating compositions comprising a silica sol, as in the claimed invention. Accordingly, it is requested that the rejections based on Sano be withdrawn.

New claims 15-17 provide an alkali metal silicate in the binder in addition to the silica sol. Support for these claims can be found in the specification, for example, page 5, lines 1-3.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'L. E. Parker', is written over a horizontal line.

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Encl: Marked Version

MARKED VERSIONIN THE CLAIMS:Please amend the following claims:

1. (Twice amended) A process for primer coating of steel which is intended to be fabricated and overcoated, in which process the steel is primer coated with a primer coating comprising a silica [or silicate] binder, wherein the binder comprises an aqueous silica sol [or alkali metal silicate] having a $\text{SiO}_2/\text{M}_2\text{O}$ mole ratio, where M represents total alkali metal and ammonium ions, of at least 6:1, and that after the primer coating has dried to the extent that it is touch dry it is treated with a film strengthening solution.
3. (Twice amended) A process according to claim 1 wherein the [binder is a silica sol of] $\text{SiO}_2/\text{M}_2\text{O}$ mole ratio is at least 25:1.
4. (Twice amended) A process according to claim 1 wherein the binder comprises an aqueous solution [of an alkali metal or ammonium silicate] stabilized by a siliconate substituted by at least one anionic group of lower pKa than silicic acid, having a pH of 7 to 10.5 prepared by lowering the pH of a solution of silicate and siliconate by ion exchange.
13. (Twice amended) A method of using an aqueous solution of an inorganic salt of concentration at least 0.01M as a spray treatment of steel primer coated with a primer coating comprising an aqueous silica sol [or alkali metal silicate] binder having a $\text{SiO}_2/\text{M}_2\text{O}$ mole ratio, where M represents total alkali metal and ammonium ions, of at least 6:1.

14. (Twice amended) A method of using a silicate or alkoxysilane solution as a spray treatment of steel primer coated with a primer coating comprising an aqueous silica sol [or alkali metal silicate] binder having a $\text{SiO}_2/\text{M}_2\text{O}$ mole ratio, where M represents total alkali metal and ammonium ions, of at least 6:1.

Please add the following new claims:

15. (New) A process according to claim 1 wherein the binder further comprises an alkali metal silicate.

16. (New) A method according to claim 13 wherein the binder further comprises an alkali metal silicate.

17. (New) A method according to claim 14 wherein the binder further comprises an alkali metal silicate.

IN THE ABSTRACT:

Please insert the following abstract on a separate page following the claims.

- ABSTRACT OF THE DISCLOSURE

A process for primer coating of steel which is intended to be fabricated and overcoated, in which process the steel is primer coated with a primer coating comprising a silica or silicate binder, wherein the binder comprises an aqueous silica sol or alkali metal silicate having a $\text{SiO}_2/\text{M}_2\text{O}$ mole ratio, where M represents total alkali metal and ammonium ions, of at least 6:1, and that after the primer coating has dried to the extent that it is touch dry it is treated with a solution which increases the film strength of the primer coating. - -